an asynchronous transfer method by using the bi-directional communication,

wherein the data transfer method is set by the host device in accordance with a

data transfer method set in the target device.

51. (Twice Amended) A computer program product comprising a computer

readable medium storing computer program codes for executing data transmission of host and

target devices which are connected by a serial bus, said product comprising process procedure

code for:

transferring a procedure signal for data transfer by common asynchronous

transfer, which is performed using an initial protocol, to the host and target devices; and

performing the data transfer between the host and target devices by using a data

transfer method selected by the host device from an isochronous transfer method and an

asynchronous transfer method in accordance with a data transfer method set in the target device.

REMARKS

This application has been reviewed in light of the Office Action dated January

3, 2002. Claims 1, 2, 4-13, 15-18, 20-23, 25-37, and 39-51 remain pending in this application.

Claims 1, 10-12, 17, 21, 22, 25, 34-36, 39-41, 43, 45, 46, 50, and 51 have been amended to

define still more clearly what Applicants regard as their invention, in terms that distinguish over

the art of record. Claims 1, 10-12, 17, 22, 25, 34-36, 41, 46, 50, and 51 are in independent form.

Favorable reconsideration is requested.

Claims 1, 2, 4-13, 15-18, 20-23, 25-37, and 39-51 were rejected under 35

U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,635,275 (*Borg et al.*), in view of

G.B. Patent No. 2,255,877 (*Clark*).

As shown above, Applicants have amended Claims 1, 10-12, 17, 21, 22, 25,

34-36, 39-41, 43, 45, 46, 50, and 51 in terms that more clearly define the present invention.

Applicants submit that these amended claims, together with the remaining claims dependent

thereon, are patentably distinct from the cited prior art for at least the following reasons.

The aspect of the present invention set forth in Claim 1 is directed to a data

transmission method for host and target devices connected by a serial bus. The method

comprises the steps of performing bi-directional communication by using an initial protocol

between the host and target devices, and selectively setting a data transfer method to be

performed from a plurality of data transfer methods including a synchronous transfer method,

which performs flow control, and an asynchronous transfer method by using the bi-directional

communication, where the data transfer method is set by the host device in accordance with a

data transfer method set in the target device.

One important feature of Claim 1 is that a data transfer method is reliably

selected from a synchronous transfer method and an asynchronous transfer method by bi-

directional communication which is performed using an initial protocol. The initial protocol is,

for example, a LOGIN protocol as shown in Figure 24.

The applied art, alone or in combination, is not seen to disclose or suggest the

invention as defined by independent Claim 1, particularly with respect to bi-directional

- 11 -

communication performed using an initial protocol.

Borg et al., as understood by Applicants, relates to a method and apparatus for determining whether the data is in a bit synchronous or a character asynchronous format. Apparently, *Borg et al.* teaches determining whether a bit is in a synchronous format or a character synchronous format by examining data for a specific character stream received from a database. The Office Action at page 2 conceded that *Borg et al.* does not explicitly teach performing bi-directional communication between said data terminal and external source, let alone bi-directional communication performed using an initial protocol. Accordingly, independent Claim 1 is patentable over *Borg et al.*, taken alone.

Clark, as understood by Applicants, relates to a method and apparatus for setting up a communications link between two terminals via a pair of data communication devices, such as modems. Apparently, *Clark* teaches that configuration information is retrieved between terminal and target devices. Nothing has been found in *Clark* that teaches or suggests performing bi-directional communication by using an initial protocol.

Applicants submit that a combination of *Borg et al.* and *Clark*, assuming such combination would even be permissible, would fail to teach or suggest performing bi-directional communication by using an initial protocol.

Accordingly, Applicants submit that Claim 1 is patentable over the cited art, and respectfully request withdrawal of the rejection under 35 U.S.C. § 103(a).

Independent Claims 12 and 50 are apparatus and computer program product claims respectively corresponding to method Claim 1, and are believed to be patentable for at

least the same reasons as discussed above in connection with Claim 1. Additionally, independent Claims 10, 11, 17, and 22 include the same feature of performing bi-directional communication by using an initial protocol, as discussed above in connection with Claim 1. Accordingly, Claims 10, 11, 17, and 22 are believed to be patentable for at least the same reasons as discussed above in connection with Claim 1.

The aspect of the present invention set forth in Claim 25 is directed to data transmission method of host and target devices which are connected by a serial bus. The method comprises the steps of transferring data from the host device to the target device, by using a transfer method selected by the host device from an isochronous transfer method and an asynchronous transfer method in accordance with a data transfer method set in the target device, and transferring a procedure signal for transfer of the data to the host and target devices by a common asynchronous transfer which is performed using an initial protocol.

One important feature of Claim 25 is transferring a procedure signal for transfer of data to the host and target devices by common asynchronous transfer using an initial protocol. The initial protocol is, for example, a LOGIN protocol as shown in Figure 24.

As noted above, apparently, *Borg et al.* teaches determining whether a bit is in a synchronous format or a character synchronous format by examining data for a specific character stream received from a database. Nothing has been found in *Borg et a.* that teaches or suggests transferring a procedure signal for transfer of the data to the host and target devices by a common asynchronous transfer using an initial protocol.

Also noted above, *Clark* apparently teaches that configuration information is

- 13 -

retrieved between terminal and target devices. Similarly, nothing has been found in *Clark* that teaches or suggests transferring a procedure signal for transfer of the data to the host and target devices by a common asynchronous transfer using an initial protocol.

Accordingly, Applicants submit that Claim 25 is patentable over the cited art, and respectfully request withdrawal of the rejection under 35 U.S.C. § 103(a).

Independent Claims 36 and 51 are apparatus and computer program product claims respectively corresponding to method Claim 25, and are believed to be patentable for at least the same reasons as discussed above in connection with Claim 25. Additionally, independent Claims 34, 35, 41, and 46 include the same feature of transferring a procedure signal for transfer of the data to the host and target devices by a common asynchronous transfer using an initial protocol, as discussed above in connection with Claim 25. Accordingly, Claims 34, 35, 41, and 46 are believed to be patentable for at least the same reasons as discussed above in connection with Claim 25.

A review of the other art of record has failed to reveal anything that, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as applied against the independent claims herein. Therefore, those claims are respectfully submitted to be patentable over the art of record.
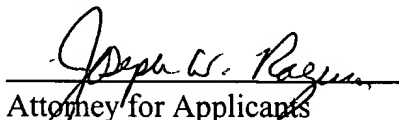
The other rejected claims in this application depend from one or another of the independent claims discussed above, and, therefore, are submitted to be patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, individual reconsideration of the patentability of each claim on its own merits is

respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,

Joseph W. Ragusa
Attorney for Applicants

Registration No. _38,586_

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200

VERSION WITH MARKINGS TO SHOW CHANGES MADE TO CLAIMS

1. (Twice Amended) A data transmission method for host and target devices connected by a serial bus, said method comprising the steps of:

performing bi-directional communication <u>by using an initial protocol</u> between the host and target devices; and

selectively setting a data transfer method to be performed from a plurality of data transfer methods including a synchronous transfer method, which performs flow control, and an asynchronous transfer method by using the bi-directional communication,

wherein the data transfer method is set by the host device in accordance with a data transfer method set in the target device.

10. (Twice Amended) An image processing apparatus comprising:

<u>a</u> communication [means for performing] <u>section, arranged to perform</u> communication with a target device by:

performing bi-directional communication <u>by using an initial protocol</u> between a host device and the target device, and

selectively setting a data transfer method to be performed from a plurality of data transfer methods including a synchronous transfer method, which performs flow

control, and an asynchronous transfer method by using the bi-directional communication,

wherein the data transfer method is set by the host device in accordance with a data transfer

method set in the target device; and

[transmission means for transmitting] a transmitter, arranged to

transmit image data to the target device via said communication [means] section.

11. (Twice Amended) An image processing apparatus comprising:

a communication [means for performing] section, arranged to perform

communication with a host device by:

performing bi-directional communication by using an initial protocol

between the host device and a target device, and

selectively setting a data transfer method to be performed from a

plurality of data transfer methods including a synchronous transfer method, which performs flow

control, and an asynchronous transfer method by using the bi-directional communication,

wherein the data transfer method is set by the host device in accordance with a data transfer

method set in the target device; and

[processing means for processing] a processor, arranged to process image data

received from the host device via said communication [means] section.

12. (Twice Amended) A data transmission apparatus connected to a serial bus,

comprising:

a communication [means for performing] <u>section, arranged to perform</u> bi-directional communication <u>by using an initial protocol</u> with a target device; and

a setting [means for] <u>section, arranged</u> to selectively [setting] <u>set</u> a data transfer method to be performed from a plurality of data transfer methods including a synchronous transfer method, which performs flow control, and an asynchronous transfer method by using the bi-directional communication,

wherein the data transfer method is set in accordance with a data transfer method set in the target device.

17. (Twice Amended) A data transmission apparatus connected to a serial bus, said apparatus comprising:

a communication [means for performing] <u>section, arranged to perform</u> bi-directional communication <u>by using an initial protocol</u> with a host device; and

a transfer [means for performing] <u>section, arranged to perform</u> data transfer with the host device by a data transfer method selectively set from a plurality of data transfer methods including a synchronous transfer method, which performs flow control, and an asynchronous transfer method by using the bi-directional communication,

wherein the data transfer method is set by the host device in accordance with a data transfer method set in the apparatus.

21. (Twice Amended) The apparatus according to claim 17, further comprising a formation [means for forming] section arranged to form a visible image on a print medium based on data received by said transfer [means] section.

22. (Twice Amended) A data transmission system for transferring data through a serial bus, comprising:

a communication [means for performing] section, arranged to perform bi-directional communication by using an initial protocol between host and target devices; and

a setting [means for] section, arranged to selectively [setting] set a data transfer method to be performed from a plurality of data transfer methods, including a synchronous transfer method, which performs flow control, and an asynchronous transfer method by using the bi-directional communication,

wherein the data transfer method is set by the host device in accordance with a data transfer method set in the target device.

25. (Twice Amended) A data transmission method of host and target devices which are connected by a serial bus, said method comprising the steps of:

transferring data from the host device to the target device, by using a transfer method selected by the host device from an isochronous transfer method and an asynchronous

transfer method in accordance with a data transfer method set in the target device; and

transferring a procedure signal for transfer of the data to the host and target

devices by a common asynchronous transfer which is performed using an initial protocol.

34. (Twice Amended) An image processing apparatus comprising:

a communication [means for performing] section, arranged to perform

communication with a target device by:

transferring data from a host device to the target device, by using a

transfer method selected by the host device from an isochronous transfer method and an

asynchronous transfer method in accordance with a data transfer method set in the target device,

and

transferring a procedure signal for transfer of the data to the host and

target devices by a common asynchronous transfer which is performed using an initial protocol;

and

[transmission means for transmitting] a transmitter, arranged to transmit image

data to the target device via said communication [means] section.

35. (Twice Amended) An image processing apparatus comprising:

a communication [means for performing] section, arranged to perform

communication with a host device by:

transferring data from the host device to a target device, by using a

transfer method selected by the host device from an isochronous transfer method and an

asynchronous transfer method in accordance with a data transfer method set in the target device,

and

transferring a procedure signal for transfer of the data to the host and

target devices by a common asynchronous transfer which is performed using an initial protocol;

and

[processing means for processing] a processor, arranged to process image data

received from the host device via said communication [means] section.

36. (Twice Amended) A data transmission apparatus connected to a serial bus,

comprising:

a transfer [means for transferring] section, arranged to transfer a procedure

signal for data transfer by a common asynchronous transfer, which is performed using an initial

protocol, to a target device; and

[transmission means for transmitting] a transmitter, arranged to transmit data to

be transmitted to the target device by using a transfer method, which is selected from an

isochronous transfer method and an asynchronous transfer method, in accordance with a data

transfer method set in the target device.

39. (Twice Amended) The apparatus according to claim 36, wherein said [transmission means] <u>transmitter</u> selects the isochronous transfer method or the asynchronous transfer method based on the procedure signal transferred by the common asynchronous transfer.

40. (Amended) The apparatus according to claim 36, wherein the data transmitted by said [transmission means] <u>transmitter</u> is image data.

41. (Twice Amended) A data transmission apparatus connected to a serial bus, comprising:

<u>a</u> transfer [means for transferring] <u>section, arranged to transfer</u> a procedure signal for data transfer by a common asynchronous transfer, <u>which is performed using an initial protocol,</u> to a host device; and

[reception means for receiving] <u>a receiver, arranged to receive</u> data from the host device by using a transfer method selected by the host device from an isochronous transfer method and an asynchronous transfer method in accordance with a data transfer method set in said apparatus.

43. (Twice Amended) The apparatus according to claim 41, wherein the host device sets the data transfer method corresponding to said [reception means] <u>receiver</u> based on the procedure signal transferred by the common asynchronous transfer.

45. (Twice Amended) The apparatus according to claim 41, further comprising

a formation [means for forming] section, arranged to form a visible image on a print medium

based on data received by said [reception means] receiver.

46. (Twice Amended) A data transmission system for transferring data through

a serial bus, comprising:

a first transfer [means for transferring] section, arranged to transfer a procedure

signal for data transfer by common asynchronous transfer, which is performed using an initial

protocol, to host and target devices; and

a second transfer [means for performing] section, arranged to perform data

transfer between [said] the host and target devices by using a transfer method selected by the host

device from an isochronous transfer method [or] and an asynchronous transfer method in

accordance with a data transfer method set in the target device.

50. (Twice Amended) A computer program product comprising a computer

readable medium storing computer program codes for executing data transmission of host and

target devices which are connected by a serial bus, said product comprising process procedure

code for:

[communication process procedure codes for] performing bi-directional

communication <u>by using an initial protocol</u> between the host and target devices; and

[setting process procedure codes for] selectively setting a data transfer method to be performed from a plurality of data transfer methods including a synchronous transfer method, which performs flow control, and an asynchronous transfer method by using the bi-directional communication,

wherein the data transfer method is set by the host device in accordance with a data transfer method set in the target device.

51. (Twice Amended) A computer program product comprising a computer readable medium storing computer program codes for executing data transmission of host and target devices which are connected by a serial bus, said product comprising <u>process procedure code for</u>:

[first transmission process procedure codes for] transferring a procedure signal for data transfer by common asynchronous transfer<u>, which is performed using an initial protocol,</u> to the host and target devices; and

[second transmission process procedure codes for] performing the data transfer between the host and target devices by using a data transfer method selected by the host device from an isochronous transfer method and an asynchronous transfer method in accordance with a data transfer method set in the target device.